CLAIMS

1. A method of controlling a twin-clutch transmission (10), wherein torque is transmitted from a drive shaft (I) to an output shaft (O) by way of a first clutch (C1) and by way of a first transmission path (E2, Z8, Z9, S2, Z3, Z4),

characterised in that

a second clutch C2) is at least partially closed in order to transmit an additional torque from the drive shaft (I) to the output shaft (O) by way of a second transmission path (E1, Z1, Z2, S1, Z3, Z4; E1, Z5, Z6, S3, Z7) when the torque transmitted by way of the first clutch (C1) reaches a predetermined upper limit.

2. A method as set forth in claim 1 characterised in that the first clutch (C1) and the second clutch (C2) are operated in a slip mode.

3. A method as set forth in claim 1 or claim 2 characterised in that the parallel activity of the first and the second transmission paths is maintained until switching over from the first transmission path into a new transmission path is effected.

4. A method as set forth in at least one of claims 1 through 3 characterised in that the second clutch (C2) is closed only so far that the additional torque does not exceed a predetermined upper limit which is dependent on the operating condition.

5. A method as set forth in at least one of claims 1 through 4 characterised in that the first clutch (C1) is operated permanently with a slight slip.

6. A method as set forth in at least one of claims 1 through 5 characterised in that the first clutch (C1) is operated with a slight slip at a predicted or occurred increase in the power demand.

7. A method as set forth in at least one of claims 1 through 6 characterised in that the first transmission path corresponds to a higher gear and the second transmission path corresponds to a lower gear.

8. A method as set forth in at least one of claims 1 through 7 characterised in that the torque transmitted by the first clutch (C1) is derived from the magnitude of the slip occurring and/or from the actuation pressure of the clutch.

9. A method as set forth in at least one of claims 1 through 8 characterised in that the transmission-side rotary speed of at least one of the clutches (C1, C2) is regulated in accordance with a predetermined reference rotary speed and in accordance with predetermined regulating parameters.

10. A method as set forth in claim 9 characterised in that the reference rotary speed ($n_{1,soll}$) for the first clutch (C1) is predetermined dynamically in dependence on the currently prevailing vehicle situation.

11. A method as set forth in claim 9 or claim 10 characterised in that the reference rotary speed for the second clutch (C2) corresponds to the reference rotary speed of the first clutch (C1) plus a difference corresponding to the desired torque distribution.

12. A method as set forth in claim 9 or claim 10 characterised in that the reference rotary speed for the second clutch (C2) is equal to its transmission-side rotary speed plus a difference corresponding to the desired torque distribution.

13. A method as set forth in claim 9 characterised in that the reference rotary speeds for both clutches (C1, C2) correspond to each other and the regulating parameters are different.

14. A twin-clutch transmission (10) comprising at least two clutches (C1, C2) for the transmission of torque from a drive shaft (I) to an output shaft (O) by way of different transmission paths and a control means for actuation of the clutches,

characterised in that

the control means is adapted to carry out a method as set forth in at least one of claims 1 through 13.

15. A twin-clutch transmission as set forth in claim 14 characterised in that it has two different output gears (Z4, Z7) for passing torque into an axle transmission.

16. A twin-clutch transmission as set forth in claim 14 or claim 15 characterised in that the quotient of the transmission ratios between the first and the second gear and/or between the second and the third gear is less than 2.0, preferably less than 1.5.